

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Applicant:	J.E. Coates et al.	Attorney Docket No.	MSFT120218
Application No:	10/607,928	Group Art Unit:	2629 / Confirmation No.: 8690
Filed:	June 27, 2003	Examiner:	H.N. Tran
Title:	SINGLE FINGER OR THUMB METHOD FOR TEXT ENTRY VIA A KEYPAD		

APPELLANTS' APPEAL BRIEF

Seattle, Washington  
March 1, 2007

TO THE COMMISSIONER FOR PATENTS:

This appeal brief is in support of a Notice of Appeal filed August 1, 2006, to the Board of Patent Appeals and Interferences appealing the decision dated July 7, 2006, of the Primary Examiner finally rejecting Claims 1-25.

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I. REAL PARTY IN INTEREST

The subject application is owned by Microsoft Corporation of Redmond, Washington.

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## II. RELATED APPEALS AND INTERFERENCES

Upon information and belief, Appellants do not have any knowledge of related appeals or interferences that may directly affect or have a bearing on the decision of the Board of Patent Appeals and Interferences (hereinafter "the Board") in the pending appeal. On June 27, 2003, Appellants filed the pending patent application, including Claims 1-25. On November 29, 2005, the Examiner issued a first Office Action rejecting Claims 1-25. On April 28, 2006, Appellants filed an amendment and response in which Claims 1 and 14 were amended. On July 7, 2006, the Examiner issued a second Office Action, finally rejecting Claims 1-25. On August 1, 2006, Appellants filed a Response After Final with the Notice of Appeal.

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### III. STATUS OF CLAIMS

This appeal follows in which Appellants entreat the Board to reverse the final rejections of Claims 1-25. The claims on appeal are set forth in the Claims Appendix.

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#### IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection.

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## V. SUMMARY OF CLAIMED SUBJECT MATTER

Regarding the claims, independent Claim 1 is directed to a method for entering text using a keypad for entering text using a keypad comprising a number of keys fewer than the number of items in the text to be entered. See p. 5, lines 9-11. The method comprises detecting the actuation of the keys of the keypad. See p. 6, lines 10-11. The method further comprises determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys. See the pending specification at p. 3, lines 22-24. The method further comprises if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function. See pending specification at p. 8, line 13 to p. 9, line 19. See also, FIGURE 3. The method additionally comprises if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and "y". *Id.* See also, FIGURE 3.

Claims 2-12 are dependent from independent Claim 1 and are directed to further limitations of the method described above. Claim 2 is dependent on Claim 1 and recites that the items of text are letters. Claim 3 is dependent on Claim 2 and recites that the letters are English language letters. Claim 4 is dependent on Claim 1 and recites that the keypad comprises a row/column matrix of keys. Claim 5 is dependent on Claim 4 and recites that the items of text are letters. Claim 6 is dependent on Claim 5 and recites that the letters are English language



letters. Claim 7 is dependent on Claim 4 and recites that the keypad is a 12-key keypad. Claim 8 is dependent on Claim 7 and recites that the keypad is a three-row by four-column 12-key keypad. Claim 9 is dependent on Claim 8 and recites that the items of text are letters. Claim 10 is dependent on Claim 9 and recites that the letters are English language letters. Claim 11 is dependent on Claim 1 and recites that the multiple keys are located side by side. Claim 12 is dependent on Claim 11 and recites that the multiple keys are two keys.

Multiple dependent Claim 13 is directed to a computer-readable media containing computer-executable instructions that, when executed, carry out the method of any one of Claims 1-12. For example, in one dependent chain, a method is described for entering text using a keypad comprising a number of keys fewer than the number of items in the text to be entered. See p. 5, lines 9-11. The method comprising detecting the actuation of the keys of the keypad. See p. 6, lines 10-11. The method further comprises determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys. See the pending specification on p. 3, lines 22-24. The method further comprises if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function. See pending specification at p. 8, line 13 to p. 9, line 19. *See also*, FIGURE 3. The method additionally comprises if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a

group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and "y". *Id.* See also, FIGURE 3.

Independent Claim 14 is directed to a device. Claim 14 defines, in a device containing a keypad formed of a plurality of keys oriented in a row/column matrix, an improvement that comprises computer-executable code. See p. 5, lines 24-26. The method comprises detecting the actuation of the keys of the keypad. See p. 6, lines 10-11. The method further comprises determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys. See the pending specification at p. 3, lines 22-24. The method further comprises if the detected key actuation is created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering a text item associated with the one key that is respectively chosen from a group of "a", "c", "e", "i", "k", "m", "q", "s", "u", "y", all caps mode, and backspace function. See pending specification at p. 7, line 13 to p. 8, line 12. See also, FIGURE 2. The method additionally comprises if the detected key actuation is created by the substantially simultaneous actuation of two keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering a text item associated with the two keys that is respectively chosen from a group of "b", "d", "j", "l", "r", "t", "z", numerical mode, "f", "g", "h", "n", "o", "p", "v", "w", and "x". *Id.* See also, FIGURE 2.

Claims 15-25 are dependent from independent Claim 14 and are directed to further limitations of the device described above. Claim 15 is dependent on Claim 14 and recites that the text items are letters. Claim 16 is dependent on Claim 15 and recites that the letters are English language letters. Claim 17 is dependent on Claim 14 and recites that the keypad comprises a row/column matrix of keys. Claim 18 is dependent on Claim 17 and recites that the

text items are letters. Claim 19 is dependent on Claim 18 and recites that the letters are English language letters. Claim 20 is dependent on Claim 17 and recites that the keypad is a 12-key keypad. Claim 21 is dependent on Claim 20 and recites that the keypad is a three-row by four-column 12-key keypad. Claim 22 is dependent on Claim 21 and recites that the text items are letters. Claim 23 is dependent on Claim 22 and recites that the letters are English language letters. Claim 24 is dependent on Claim 14 and recites that the multiple keys are located side by side. Claim 25 is dependent on Claim 24 and recites that the multiple keys are two keys.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 2, 4, 5, 7-9, 11, 12, 14, 15, 17, 18, 20-22, 24, and 25 were rejected under 35 U.S.C. § 102(e) as being anticipated in view of the teachings of U.S. Patent No. 6,909,382 (hereinafter "Trell"). Claims 3, 6, 10, 13, 16, 19, and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable in view of the teachings of Trell, and further in view of the teachings of U.S. Patent No. 6,765,556 (hereinafter "Kandogan et al.").

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## VII. ARGUMENT

As discussed below, the Examiner has established neither a *prima facie* case of anticipation nor a *prima facie* case of obviousness. To establish *prima facie* anticipation of a claimed invention, each and every element arranged as in the claim, must be found in a single prior art reference. See M.P.E.P. § 2131. M.P.E.P. § 2143.03 requires that to establish *prima facie* obviousness of a claimed invention, all the claimed limitations must be taught or suggested by the prior art. The applied and cited references do not teach, among many other features, the feature of:

if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "c", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function; and

if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "i", "p", "l", "o", "r", "v", and "y."

as recited in independent Claim 1 and multiple dependent Claim 13. The applied and cited references also do not teach the feature of:

if the detected key actuation is created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering a text item associated with the one key that is respectively chosen from a group of "a", "c", "e", "i", "k", "m", "q", "s", "u", "y", all caps mode, and backspace function

as recited in Claim 14. For better appreciation of the arguments below, Appellants summarized the applied references.

#### A. Summary of Trell

The system of Trell is directed to a programmatic organization method for augmented use of a standardized keyboard, which is capable of detecting depression/touching of single keys as well as simultaneously depressed/touched combinations of keys. According to Trell, simultaneously depressions/touching of two or more adjacent or nonadjacent located keys of the keyboard is decoded as a predetermined character, symbol, action, and so on. Predetermined functions, such as a "Shift," "Cap," or "Num Lock" function, are possible by predetermined single keys or predetermined key combinations.

More specifically, the decoding of keys or key combinations of Trell is completely different from the decoding of the key actuation of the claimed invention. For example, whereas Figure 2 of Trell explains that the simultaneously depressed/touched combination of keys "1" and "4" yield a "b" as a result, in the presently claimed invention the actuation of keys "1" and "4" produces an "h", in one embodiment (Figure 3 of the pending patent application), and an "f", in another embodiment (Figure 2 of the pending patent application). This distinguishing difference among other differences renders Trell ineffective as an anticipation reference.

#### B. Summary of Kandogan et al.

The system of Kandogan et al. allows letters to be entered electronically by selecting, in sequential fashion, two keys on a standard phone layout. The two keys in a sequence are located in the same row. The first key selected is the key on which the desired letter is displayed, and the second key is given the spatial position of the desired letter within this group of letters on the key. The letters and keys may be color-coded to aid the user when inputting the two key sequences. Letters may be selected to spell out words on a screen and then sent electronically to a remote device or recipient.

There are several problems with Kandogan et al. and all of them, alone or in combination, render Kandogan et al. inappropriate as prior art. First, Kandogan et al. titles his invention as "Two-Key Input Per Character Text Entry Apparatus And Method." The claimed invention can decode actuation of one key to produce a text item and simultaneous actuation of multiple keys. It is clear that two-key input technique of Kandogan et al. cannot be read as the actuation of one key. Second, Kandogan et al. explains very succinctly that his two keys are entered sequentially and not simultaneously. The claimed invention requires the simultaneous actuation of multiple keys. The claimed features are not taught by Kandogan et al. and therefore it is not prior art.

C. Rejection Under 35 U.S.C. § 102(e) in View of the Teachings of Trell

1. Independent Claim 1, Dependent Claims 2, 4, 5, 7-9, 12

Claim 1 succinctly defines a method for entering text using a keypad comprising a number of keys fewer than the number of items in the text to be entered. The method comprises detecting the actuation of the keys of the keypad. The method further comprises determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys. The method further comprises if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function. The method additionally comprises if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and

"y". Because the Examiner has failed to show that Trell discloses every element of the claimed invention, no prima facie case of anticipation has been established.

a. The Examiner Has Utterly Failed to Establish a Prima Facie Case of Anticipation by Neglecting to Show That Every Claim Limitation Is Taught by Trell

Each claim limitation is neither taught nor suggested by Trell. As an example, the system of Trell completely lacks the feature of

if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function

as recited in independent Claim 1. The Office has indicated that the recited limitation of Claim 1 can be found in Trell (at Figure 2). There is nothing in Figure 2 of Trell that discloses the claimed feature. For example, the claimed invention requires that if the detected key actuation was created by the actuation of the "1" key, the method enters an item "g" that is the letter associated with "1" key. In contrast, when the key "1" is pressed in the system of Trell, the letter "a" is produced. See Figure 2 of Trell. As an additional example, the claimed invention requires that if the detected key actuation was created by the actuation of the "2" key, an item "b" is entered. In contrast, when the key "2" is pressed in the system of Trell, the letter "d" is produced. As a third example, the claimed invention requires that if the detected key actuation was created by the actuation of the "3" key, the method enters an item "e". In contrast, when the key "3" is pressed in the system of Trell, the letter "g" is produced.



b. Instead of Giving the Claimed Invention the Broadest Reasonable Interpretation Consistent With the Specification, the Examiner Gave Trell the Broadest, Most Unreasonable Interpretation

M.P.E.P. § 2131.01 provides that "[d]uring patent examination, the claims are given the broadest reasonable interpretation consistent with the specification" (emphasis provided), citing favorably, *In re Morris*, 127 F.3d 1048, 44 U.S.P.Q.2d 1023 (Fed. Cir. 1997). The specification referred to by the M.P.E.P. is the specification of the pending patent application being examined by the Examiner and not the applied reference, such as Trell.

For example, Claim 1 recites the feature of

if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function

The Examiner has alleged that the recited limitation of Claim 1 can be found in Trell (at Figure 2). There is nothing whatsoever in the cited figure that can be reasonably interpreted to disclose the claim limitation. For example, the claimed invention requires that if the detected key actuation was created by the actuation of the "\*" key, the method enters an item "s" that is associated with "\*" key. In contrast, when the key "\*" is pressed in the system of Trell, the letter "å" is produced. See Figure 2 of Trell. As an additional example, the claimed invention requires that if the detected key actuation was created by the actuation of the "0" key, an all caps mode is entered. In contrast, when the key "0" is pressed in the system of Trell, the letter "y" is produced. As a third example, the claimed invention requires that if the detected key actuation was created by the actuation of the "#" key, the method enters into a backspace function. In contrast, when the key "3" is pressed in the system of Trell, the letter "g" is produced.

2. Dependent Claim 11

Claim 11 is dependent on Claim 1 and recites that the multiple keys are located side by side. The Examiner has argued that Trell teaches this feature of the claimed invention at Figure 2. This cannot be correct. Figure 2 of Trell displays a number of key combinations that are not side by side. That has nothing to do with the claimed invention. For example, Figure 2 of Trell shows that depressing keys "7" and "9" produces cap lock. Figure 1 of Trell clearly shows that key "7" is no where near key "9" and therefore cannot be "side by side" as required by the claimed invention. As another example, Figure 2 of Trell shows that depressing keys "\*" and "#" produces numbers. Figure 1 of Trell clearly shows that key "\*" is no where near key "#" and therefore cannot be "side by side" as required by the claimed invention. As a further example, Figure 2 of Trell shows that depressing keys "1" and "7" produces the symbol "+". Figure 1 of Trell clearly shows that key "1" is no where near key "7" and therefore cannot be "side by side" as required by the claimed invention.

Appellants incorporate by reference the arguments discussed in connection with Independent Claim 1, Dependent Claims 2, 4, 5, 7 9, and 12, as if the discussed arguments were set forth here in full.

3. Independent Claim 14, Dependent Claims 15, 17, 18, 20-22, and 25

Claim 14 succinctly defines, in a device containing a keypad formed of a plurality of keys oriented in a row/column matrix, an improvement that comprises computer-executable code as embodied in a method. The method comprises detecting the actuation of the keys of the keypad. The method further comprises determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys. The method further comprises if the detected key actuation is created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering a text item

associated with the one key that is respectively chosen from a group of "a", "c", "e", "i", "k", "m", "q", "s", "u", "y", all caps mode, and backspace function. The method additionally comprises if the detected key actuation is created by the substantially simultaneous actuation of two keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering a text item associated with the two keys that is respectively chosen from a group of "b", "d", "j", "l", "r", "t", "z", numerical mode, "f", "g", "h", "n", "o", "p", "v", "w", and "x".

As specified by M.P.E.P. § 2131.01, "the identical invention must be shown in as complete detail as is contained in the . . . claim." Citing favorably *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) (emphasis provided). Every element of the claimed invention must be literally present, arranged as in the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989), citing *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 895, 221 U.S.P.Q. 669, 673; *Kallman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771, 772, 218 U.S.P.Q. 781, 789 (Fed. Cir. 1983), *cert. denied*, 465 U.S. 1026, 79 L. Ed. 2d 687, 104 S. Ct. 1284 (1984). Because the Examiner has failed to show that Trell discloses the identical invention as claimed by Appellants, no *prima facie* case of anticipation has been established.

As an example, the system of Trell completely lacks the feature of

if the detected key actuation is created by the substantially simultaneous actuation of two keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering a text item associated with the two keys that is respectively chosen from a group of "b", "d", "j", "l", "r", "t", "z", numerical mode, "f", "g", "h", "n", "o", "p", "v", "w", and "x"

as recited in independent Claim 14. The Office has indicated that the recited limitation of Claim 14 can be found in Trell (at Figure 2). There is nothing in Figure 2 of Trell that discloses the claimed feature. For example, the claimed invention requires that if the detected key actuation was created by the substantially simultaneous actuation of two keys "1" and "2", the method enters an item "b" that is the letter associated with the two keys. In contrast, when the keys "1" and "2" are pressed in the system of Trell, the letter "c" is produced. See Figure 2 of Trell. As an additional example, the claimed invention requires that if the detected key actuation was created by substantially simultaneous actuation of two keys "2" and "3", an item "d" is entered. In contrast, when the keys "2" and "3" are pressed in the system of Trell, the letter "f" is produced. As a third example, the claimed invention requires that if the detected key actuation was created by the substantially simultaneous actuation of two keys "4" and "5", the method enters an item "j". In contrast, when the keys "4" and "5" are pressed in the system of Trell, the letter "k" is produced. Because the Examiner has failed to show that Trell discloses the identical invention as claimed by Appellants, no prima facie case of anticipation has been established.

Appellants incorporate by reference the arguments discussed in connection with Independent Claim 1, Dependent Claims 2, 4, 5, 7, 9, 11, and 12, as if the discussed arguments were set forth herein in full.

#### 4. Dependent Claim 24

Claim 24 is dependent on Claim 14 and recites that the multiple keys are located side by side. The Examiner has argued that Trell teaches this feature of the claimed invention at Figure 2. This cannot be correct. Figure 2 of Trell displays a number of key combinations that are not side by side. That has nothing to do with the claimed invention. For example, Figure 2 of Trell shows that depressing keys "6" and "#" produces a symbol ";". Figure 1 of Trell clearly shows that key "6" is no where near key "#" and therefore cannot be "side by side" as required by

the claimed invention. As another example, Figure 2 of Trell shows that depressing keys "4" and "\*" produces a symbol "?". Figure 1 of Trell clearly shows that key "4" is no where near key "\*" and therefore cannot be "side by side" as required by the claimed invention.

Appellants incorporate by reference the arguments discussed in connection with Independent Claim 1, Dependent Claims 2, 4, 5, 7, 9, 11, 12, Independent Claim 14, Dependent Claims 15, 17, 18, 20-22, and 25, as if the discussed arguments were set forth here in full.

D. Rejection of Claims 3, 6, 10, 13, 16, 19, and 23 Under 35 U.S.C. § 103(a) in View of the Teachings of Trell and Further in View of the Teachings of Kandogan et al.

The claims rejected under 35 U.S.C. § 103(a) all require certain entries of text items associated with the actuation of one key or substantially simultaneous actuation of multiple keys. Nowhere does Trell discuss the specific entries of text items associated with actuation of keys as spelled out by the claimed invention. Kandogan et al. discusses the use of two-key per character text entry method, each key being selected in a sequential fashion. This has nothing to do with the claimed invention, which requires detected key actuation to be created by the substantially simultaneous actuation of multiple keys. Kandogan et al. also discusses the preference for using only those two keys in sequence that are located in the same row. This also has nothing to do with the claimed invention since the claimed invention is not limited to actuation of keys in the same row. The sections below explain these issues in greater details.

1. The Examiner Has Failed to State a *Prima Facie* Case of Obviousness Because He Has Not Shown That Every Single Claim Limitation Is Taught or Suggested by the Applied and Cited References

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). "All words in a claim must be considered in judging the patentability of that

claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970). As discussed above, none of the claim limitations in Claim 13 is taught or suggested by Trell, Kandogan et al., alone or in combination. None of them teaches or suggests at least the feature of:

if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and "y."

as recited in multiple dependent Claim 13. For example, the claimed invention requires that if the detected key actuation was created by the substantially simultaneous actuation of two keys "1" and "2", the method enters an item "a" that is the letter associated with the two keys. In contrast, when the keys "1" and "2" are pressed in the system of Trell, the letter "c" is produced and the symbol "@" is produced in the system of Kandogan et al. As an additional example, the claimed invention requires that if the detected key actuation was created by substantially simultaneous actuation of two keys "2" and "3", an item "d" is entered. In contrast, when the keys "2" and "3" are pressed in the system of Trell, the letter "f" is produced and the letter "C" is produced in the system of Kandogan et al. As a third example, the claimed invention requires that if the detected key actuation was created by the substantially simultaneous actuation of two keys "4" and "5", the method enters an item "j". In contrast, when the keys "4" and "5" are pressed in the system of Trell, the letter "k" is produced and the letter "H" is produced by the system of Kandogan et al. Because the Examiner has failed to show that Trell, Kandogan et al., alone or in combination, discloses every claim limitation as claimed by Appellants, no *prima facie* case of obviousness has been established.

2. After Conceding That Trell Failed to Teach or Suggest the Claimed Invention, the Examiner Attempted to Modify Trell with Kandogan et al. but the Proposed Modification Would Render All References Unsatisfactory for Their Intended Purposes

If a proposed modification would render a prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 U.S.P.Q. 1125 (Fed. Cir. 1984) (Claimed device was a blood filter assembly wherein both the inlet and outlet for the blood were located at the bottom end of the filter assembly, and wherein a gas vent was present at the top of the filter assembly. The prior art reference taught a liquid strainer for removing dirt from gasoline wherein the inlet and outlet were at the top of the device, and wherein a stopcock was located at the bottom of the device for periodically for removing collected dirt. The Board concluded that the claims were *prima facie* obvious to turn the prior art device upside down. The Court reversed, finding that if the prior art device was turned upside down it would be inoperable for its intended purpose because the gasoline to be filtered would be trapped at the top).

In the applied references, Trell explains that, advantageously, his system is capable of detecting depression/touch of single keys as well as simultaneous depressed/touched combination of keys. Some of Trell's key combinations involve keys at opposite ends of the keypad, such as the key combination "7" and "9." In contrast, the system of Kandogan et al. does not accommodate single keys. Kandogan et al. titles his patent as "Two-Key Input Per Character Text Entry Apparatus And Method." As explained, Kandogan et al. indicates that it is preferred that the depression of any two keys must occur in sequence. Sequential operation of two keys to

obtain a letter is very different from simultaneous operation of two keys. Kandogan et al. also explains that frustration that users face in that some of the two-key sequences involve keys at opposite ends of the keypad, "which can result in a slow text entry rate." See the Abstract of Kandogan et al. To cure the defect of Trell, among many other defects, the Examiner would like to modify Trell to include the use of English letters by Kandogan et al. This proposal makes absolutely no sense.

First, Trell seems satisfied with its system: "Advantageously are predetermined functions ... by predetermined single keys or predetermined [simultaneous] combination of keys." See the Abstract of Trell. If that is the case, it is unclear where the motivation can be found to get rid of this advantage of Trell to accept the sequential technique of Kandogan et al. As required by M.P.E.P. § 2143.01, the prior art must suggest the desirability of the claimed invention. Instead, the Examiner found something else on his own: "It would have been obvious ... to make the English language letters as taught by Kandogan in the Trell device because this would provide an improved keypad system...." See the first Office Action, page 5. That is not a motivation that can be found in the prior art.

Second, Trell uses keys at opposite ends of a keypad, which Kandogan et al. specifically viewed as problematic because it "can result in a slow text entry rate." To combine Trell and Kandogan et al., which combination Appellants specifically deny, either the simultaneous key combination technique of Trell must be jettisoned or the sequential key technique of Kandogan must be supplanted, and the resultant combination would destroy the operations of all references. Because neither Trell nor Kandogan et al. can be changed in a way that would frustrate its original purpose, under the law, the Examiner has failed to establish a prima facie case of obviousness.



Appellants incorporate by reference the arguments discussed in connection with Independent Claim 1, Dependent Claims 2, 4, 5, 7, 9, 11, 12, Independent Claim 14, Dependent Claims 15, 17, 18, 20-22, and 25, as if the discussed arguments were set forth here in full.

E. A Recap of the Claimed Invention Clearly Shows That Trell, Kandogan et al., or Their Combination Does Not Teach, Let Alone Render Unpatentable, the Claimed Invention

Clearly Trell and Kandogan et al., each alone, much less in combination, fails to teach or suggest the subject matter of Claim 1. More specifically, neither of these references, alone or in combination, teaches or suggests "if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function," as recited in Claim 1, among other claim limitations. As will be appreciated from the foregoing discussion, neither of the applied and cited references teaches or suggests the subject matter of Claim 1. As a result, Appellants submit that Claim 1 is clearly allowable in view of the teachings of the references.

With respect to dependent Claims 2-12, all of which depend directly or indirectly from Claim 1, it is also clear that the subject matter of these claims is neither taught nor suggested by the applied and cited references, namely, Trell, and Kandogan et al., particularly when the limitations are considered in combination with the recitations of the claims from which these claims individually depend. In summary, Claims 2-12 are submitted to be allowable for reasons in addition to the reasons why Claim 1 is submitted to be allowable.

Multiple dependent Claim 13 is directed to a computer-readable media containing computer-executable instructions that, when executed, carry out the method of any one of Claims 1-12. The applied and cited references fail to teach "if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1"

and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and "y", as recited in Claim 13, among other limitations. For generally the same reasons discussed above with respect to Claim 1, Appellants submit that the subject matter of Claim 13 is neither taught nor suggested by the applied and cited references, and thus, Claim 13 is also allowable.

Independent Claim 14 is directed to a device. The applied and cited references fail to teach or suggest "if the detected key actuation is created by the substantially simultaneous actuation of two keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering a text item associated with the two keys that is respectively chosen from a group of "b", "d", "j", "l", "r", "t", "z", numerical mode, "f", "g", "h", "n", "o", "p", "v", "w", and "x", as recited in Claim 14, among other limitations. For generally the same reasons discussed above with respect to Claims 1 and 13, Appellants submit that the subject matter of Claim 14 is neither taught nor suggested by the applied and cited references.

With respect to dependent Claims 15-25, all of which depend directly or indirectly from Claim 14, it is also clear that the subject matter of these claims is neither taught nor suggested by the applied and cited references. Claims 15-25 all have limitations that are clearly neither taught nor suggested by any of the applied and cited references, particularly when the limitations are considered in combination with the recitations of the claims from which these claims

individually depend. In summary, Claims 15-25 are submitted to be allowable for reasons in addition to the reasons why Claim 14 is submitted to be allowable.

In light of the foregoing remarks, it is clear that none of the applied and cited references teaches, let alone renders unpatentable, the claimed inventions recited in Claims 1-25. The applied and cited references are directed to decoding keys that are different from the claimed invention; use a sequential detection technique that is neither can accommodate a single key result or simultaneous actuation of key combinations; employ keys that are not side by side; work in an entirely different manner from the present invention; or simply have nothing to do with the claimed invention. The claimed invention is directed to an entirely different concept and solution.

In view of the foregoing remarks, Appellants submit that all of the claims in the present application are patentably distinguishable over the teachings of Trell, Kandogan et al., or their combination. Therefore, it is submitted that the rejections of Claims 1-25 were erroneous, and reversal of the rejections is respectfully requested.

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## VIII. CLAIMS APPENDIX

1. (Previously presented) A method for entering text using a keypad comprising a number of keys fewer than the number of items in the text to be entered, comprising:

(a) detecting the actuation of the keys of the keypad;

(b) determining if the detected actuation was created by the actuation of one key or the substantially simultaneous actuation of multiple keys;

(c) if the detected key actuation was created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering the item associated with the one key that is respectively chosen from a group of "g", "b", "e", "i", "k", "n", "q", "u", "x", "s", all caps mode, and backspace function; and

(d) if the detected key actuation was created by the substantially simultaneous actuation of multiple keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering the item associated with the multiple keys that is respectively chosen from a group of "a", "d", "j", "m", "t", "w", "z", numerical mode, "h", "c", "f", "p", "l", "o", "r", "v", and "y".

2. (Original) The method claimed in Claim 1 wherein the items of text are letters.

3. (Original) The method claimed in Claim 2 wherein the letters are English language letters.
4. (Original) The method claimed in Claim 1 wherein the keypad comprises a row/column matrix of keys.
5. (Original) The method claimed in Claim 4 wherein the items of text are letters.
6. (Original) The method claimed in Claim 5 wherein the letters are English language letters.
7. (Original) The method claimed in Claim 4 wherein said keypad is a 12 key keypad.
8. (Original) A method for entering text as claimed in Claim 7 wherein the keypad is a three row by four column 12 key keypad.
9. (Original) The method claimed in Claim 8 wherein the items of text are letters.
10. (Original) The method claimed in Claim 9 wherein the letters are English language letters.
11. (Original) The method claimed in Claim 1 wherein the multiple keys are located side by side.
12. (Original) The method claimed in Claim 11 wherein the multiple keys are two keys.
13. (Original) Computer-readable media containing computer-executable instructions that, when executed, carry out the method of any one of Claims 1-12.

14. (Previously presented) In a device containing a keypad formed of a plurality of keys oriented in a row/column matrix, the improvement comprising computer-executable code for:

(a) detecting the actuation of the keys of the keypad;

(b) determining if the detected key actuation was created by the actuation of one key or the substantially simultaneous actuation of two keys;

(c) if the detected key actuation is created by the actuation of one key chosen from a group of "1", "2", "3", "4", "5", "6", "7", "8", "9", "\*", "0", and "#", entering a text item associated with the one key that is respectively chosen from a group of "a", "c", "e", "i", "k", "m", "q", "s", "u", "y", all caps mode, and backspace function; and

(d) if the detected key actuation is created by the substantially simultaneous actuation of two keys chosen from a group of "1" and "2", "2" and "3", "4" and "5", "5" and "6", "7" and "8", "8" and "9", "\*" and "0", "0" and "#", "1" and "4", "2" and "5", "3" and "6", "4" and "7", "5" and "8", "6" and "9", "7" and "\*", "8" and "0", and "9" and "#", entering a text item associated with the two keys that is respectively chosen from a group of "b", "d", "j", "l", "r", "t", "z", numerical mode, "f", "g", "h", "n", "o", "p", "v", "w", and "x".

15. (Original) The improvement claimed in Claim 14 wherein the text items are letters.

16. (Original) The improvement claimed in Claim 15 wherein the letters are English language letters.

17. (Original) The improvement claimed in Claim 14 wherein the keypad comprises a row/column matrix of keys.

18. (Original) The improvement claimed in Claim 17 wherein the text items are letters.

19. (Original) The improvement claimed in Claim 18 wherein the letters are English language letters.

20. (Original) The improvement claimed in Claim 17 wherein the keypad is a 12 key keypad.

21. (Original) An improvement for entering text as claimed in Claim 20 wherein the keypad is a three row by four column 12 key keypad.

22. (Original) The improvement claimed in Claim 21 wherein the text items are letters.

23. (Original) The improvement claimed in Claim 22 wherein the letters are English language letters.

24. (Original) The improvement claimed in Claim 14 wherein the multiple keys are located side by side.

25. (Original) The improvement claimed in Claim 24 wherein the multiple keys are two keys.

IX. EVIDENCE APPENDIX

None.

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X. RELATED PROCEEDINGS APPENDIX

None.

Respectfully submitted,

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A handwritten signature in black ink, appearing to read 'D.C. Peter Chu', with a large, stylized initial 'D'.

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